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To: Commissioner for Patents

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US Serial No.: 10/710,512

Ref. No.: VR-P0003

Comments:

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office at FAX number 703-872-9306 on <u>September 1st, 2004</u>.

Fax Coversheet (1 page) (this sheet) Petition to Make Special (6 pages) Credit Card Payment Form (1 page)

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RECEIVED CENTRAL FAX CENTER

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE SEP 0 1 2004

App. No.

: 10/710,512

Confirmation No.:

4511

Applicant

: KOSELKA, et al.

Docket No.:

VR-P0003

Filed

7/16/2004

Customer No. :

36067

TC/A.U.

UNKNOWN

Examiner

UNKNOWN

For:

ANGLED AXIS MACHINE VISION SYSTEM AND METHOD

PETITION TO MAKE SPECIAL UNDER 37 C.F.R. 1.102(d)

Commissioner for Patents 703-872-9306

Dear Sir:

Applicant hereby requests the above-identified application be Made Special in accordance with the Accelerated Examination procedure of MPEP 708.02 VIII. Applicant submits that all claims in the pending application are directed to a single invention. Applicant has conducted a pre-examination search in class/subclasses 348/42, 348/46, 348/47, 348/48, 356/601, 356/611, 356/614, 356/622, 382/106, 382/154, 396/322, 396/324, 396/325, 396/329. A detailed discussion of the references found in the pre-examination search is included herein with patentability discussed to the particularity required by 37 CFR 1.111(b) and (c). Applicant submits the fee for Accelerated Examination as set forth in 37 CFR 1.17 (h).

Pre-examination Search

The relevant patents conducted during the search are identified below.

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U.S. Patent No. 6,392,688

U.S. Patent No. 6,392,688 (hereinafter the '688 patent) discloses a high accuracy stereo vision system 50. Each of two or more electronic camera assemblies is directly mounted to a rigid mounting member 52 (see col. 4, lines 1-9 and figure 3). The purpose of the apparatus is to keep the distance between each of the cameras from varying by more than on half of one pixel.

Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein the camera mount is rotated in a first axial angle between 0 and 90 degrees about a roll axis. The '688 Patent does not disclose a rotated camera mount as claimed.

U.S. Patent 5,475,422

United States Patent No. 5,476,422 (hereinafter the '422 patent) discloses a method and apparatus for reconstructing three-dimensional objects using at least three cameras which may be arranged at different angles from a horizontal line. The cameras 111 through 11n are mounted on a common moving table 15A at different heights. The moving table 15A is designed to be movable three-dimensionally by the driver 15B formed by a robot arm under the control of the movement controller 16 (see col. 5, lines 48-53, and figure 1).

Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein the camera mount is rotated in a first axial angle between 0

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and 90 degrees about a roll axis. The '422 Patent does not disclose a rotated camera mount as claimed and requires 3 or more cameras.

U.S. Patents 5,347,363 and 5,249,035

United States Patent No. 5,347,363 (hereinafter the '363 patent) discloses an apparatus containing only two cameras 10 and 11 (as per Figure 3) for measuring lead shape of semiconductor packages where each camera photographs the external lead 1a of semiconductor package 1 from a different angle (see col. 9, lines 56-62). An epipolar line is used in this method to determine a same point in two different two-dimensional image planes (see col. 9, ll. 53-55). The cameras are set an inward angle (i.e., cross-eyed), and pointed toward the semiconductor package (see col. 13, ll. 9-16 and figure 12). In comparison, United States Patent No. 5,249,035 (hereinafter the '035 patent and to the same inventor as '363) discloses an apparatus containing three cameras (see Figure 5) to create images that are taken from different directions (see abstract).

Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein said second camera is mounted coplanar to said first camera wherein the camera mount is rotated in a first axial angle between 0 and 90 degrees about a roll axis. The '363 and '035 Patents do not disclose a rotated camera mount as claimed.

U.S. Patent 5,198,876

United States Patent No. 5,198,876 (hereinafter the '876 Patent) discloses a method of measuring a three-dimensional position of a work piece (see abstract and figure 1). At least two laser beams are required for emitting light as claimed.

Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein the camera mount is rotated in a first axial angle between 0 and 90 degrees about a roll axis. The '876 Patent does not disclose a rotated camera mount as claimed and requires lasers.

U.S. Patent 1,505,268

United States Patent No. 1,505,268 (hereinafter the '268 Patent) discloses a stereophotomicrographic instrument. The pair of cameras are mounted so as to be capable of angular adjustment about a clamping bolt 13 (see page 1 line 101 and figures 1 and 2).

Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein said second camera is mounted coplanar to said first camera wherein the camera mount is rotated in a first axial angle between 0 and 90 degrees about a roll axis and further comprises a computer configured to calculate distances using epipolar lines parallel to the collinear horizontal center lines of the cameras. The '876 Patent does not disclose a rotated camera mount as claimed and does not contemplate calculating distances.

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U.S. Patent 4,654,872

United States Patent No. 4,654,872 (hereinafter the '872 Patent) discloses a system for recognizing three-dimensional objects using a "simplified process with a shortened processing time and with improved precision" (see col. 1, line 36). The two cameras 20T, and 20R are fixed to an arm 21 which is supported by a rotating device 22 as shown in Figure 2 (see col. 3, 1l. 20-29). Epipolar lines are used in the process (see abstract). At least three images are required for processing.

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Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein the camera mount is rotated in a first axial angle between 0 and 90 degrees about a roll axis. The '872 Patent does not disclose a rotated camera mount as claimed and requires at least three pictures to calculate a distance to an object.

8. U.S. Patent Application Publication 20030016861

U.S. Patent Application Publication 20030016861 (hereinafter the '861 Application) discloses an apparatus for constituting a three-dimensional model (see abstract). Contours of a body are acquired at optional points of view by freely changing the positions and attitudes of the camera. The positions of the camera are calculated by acquiring a plurality of images and attitudes by capturing the body from a plurality of positions and attitudes and by using the contours of the body on the images. A three-dimensional shape is formed again from the positions of the camera (see abstract and figure 3).

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Applicant's Claimed Invention is Different

An embodiment of Applicant's invention comprises a camera mount coupled with a first camera and a second camera wherein the camera mount is rotated in a first axial angle between 0 and 90 degrees about a roll axis. The '861 Patent Application Publication does not disclose a rotated camera mount as claimed.

CONLCUSION

In view of the above the Applicant requests that the Petition to Make Special be granted and the examination of the application be advanced.

Respectfully Submitted,

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CERTIFICATE OF TRANSMISSION

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Signature